Diagnosis of Human Pulmonary Dirofilariasis

TO THE EDITOR: Since the publication[1] in the February issue of the first case of human pulmonary dirofilariasis (HPD) acquired in the West, I have received several inquiries from practicing physicians regarding the clinical and laboratory diagnosis of HPD vis-a-vis other solitary pulmonary nodules, particularly malignant ones. Perhaps a public reply would be of interest to others as well.

TABLE 1.—*Laboratory Data of Patients With Pulmonary Dirofilariasis*

Test	*No. Examined*	*Results*
Eosinophilia	19	Median 5% Range 0-14%
Serologic tests for filariasis	9	IHA: 6—3+ BF: 4—3+ CF: 1—
Search for microfilariae in the venous blood	5	All negative
Right heart catheterization for adult worm	1	Negative
Transthoracic needle aspiration	5	3 negative 2 inflammatory cells

BF = bentonite flocculation; CF = complement fixation; IHA = indirect hemagglutination

A review of the cases of HPD published in the United States[2] shows that most laboratory procedures (Table 1) give nonspecific or noncontributory results except for transthoracic needle aspirations, which have been consistently negative for malignant cells. The antigenic stimulus of a single worm is apparently too limited to elicit a systemic response detectable by current laboratory methods.

Clinically (Table 2) the most likely candidate for HPD is a white man between the ages of 40 and 60, who resides in an area endemic for the dog heartworm, had negative findings on an x-ray study of the chest about a year ago and now has a solitary pulmonary nodule 2 cm or less in diameter, which is either asymptomatic or associated with a mild respiratory illness and may be located in any lobe of the lungs.

The association of these epidemiologic criteria with a negative needle aspirate should suggest the possibility of HPD preoperatively. At this time, however, a definitive diagnosis can be made only surgically.

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REFERENCES

1. Ciferri F: Human pulmonary dirofilariasis in the West. West J Med 134:158-162, Feb 1981
2. Ciferri F: The epidemiology of human pulmonary dirofilariasis in the United States. Presented at the 29th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Atlanta, Georgia, November 4-7, 1980

TABLE 2.—*Criteria in the Differentiation of Human Pulmonary Dirofilariasis (HPD) and Malignant Solitary Pulmonary Nodules*

	HPD	*Malignant**
Patient Characteristics		
Residence in USA	Southeast and Northwest	
Median age	52	Over 45
Gender affinity	Male (66%)	Male
Ethnic affinity	Caucasian (90%)	
Clinical Features		
Asymptomatic	66%	Symptoms usually present
Mild respiratory illness	34%	
Radiographic Features		
Median interval from last negative chest x-ray	1 year	
Diameter of nodule	≤2cm (75%)	≥2cm
Location in the lungs	Any lobe	Predominantly upper lobes
Serial radiographs	No change	Changes likely
Final outcome	Calcification	Death

*Adapted from Fraser RG, Paré JAP: Diagnosis of Diseases of the Chest—2nd Ed, Philadelphia, W. B. Saunders, 1978

Teaching the Pelvic Examination in an Internal Medicine Residency Program

TO THE EDITOR: Teaching pelvic examination skills has been a problem in medical education. Traditionally, knowledge of gynecological examination has been acquired via textbook assignments, audiovisual materials, lectures and plastic models. In 1978 Kretzschmar described the gynecology teaching associate program (GTA) as a new method of teaching pelvic examination skills to undergraduate students.[1] According to the GTA concept, nonphysician women function as both instructors and patients for the pelvic examination using a team-teaching approach. He found that GTA's were well accepted by students. Qualities

the GTA approach brought to the educational system included an increased sensitivity, improved teaching skills in pelvic examination instruction and effective interpersonal skills which help create a nonthreatening environment for students. In recent years other authors have documented and extended the validity of a GTA-type experience in teaching the pelvic examination to undergraduate students.[2,3] In this report the authors document the positive value of teaching pelvic examination by GTA's to internal medicine residents.

As part of each internal medicine resident's curriculum at the University of Missouri-Kansas City Affiliated Hospital Program, he or she is asked to participate in a pelvic examination instruction session taught by two GTA's. Eighteen residents have completed the instruction. The GTA's are part-time teaching consultants in the Department of Obstetrics and Gynecology at Truman Medical Center whose chairman is Robert Kretzschmar, MD.[1] The goals of the program are to review each resident's cognitive, technical and interpersonal knowledge concerning the pelvic examination. A complete pelvic examination which demonstrates both technical and interpersonal skills is carried out by two GTA's. Each resident then examines a GTA who served as a patient/instructor. The GTA offers constructive feedback about technique and gives suggestions about how to make the examination a more comfortable and productive experience for both the patient and physician.

The large majority of residents who have completed the program think instruction using this method is very worthwhile. Positive comments include the immediate feedback from the patient/instructor, and the stressing of sensitivity and nonpainful techniques by the GTA's. Overall the residents feel that the program was very well organized and that the material and skills were taught by knowledgeable teachers. Three residents who felt the program was not worthwhile did so only because they had had similar instruction during their undergraduate education. They thought the program would be very beneficial for residents who did not have a similar undergraduate experience.

No major changes were suggested by the residents except that the session be reduced to approximately 1 to 1½ hours (originally, the instruction sessions lasted 2 to 2½ hours). All responders felt that this program should be required for first-year postgraduate physicians and not repeated yearly during their three year internal medicine program. Several participants felt that videotaping their sessions and reviewing them with the GTA would be an additional valuable experience. Finally, most residents thought that teaching about pathological conditions by this teaching system would be invaluable.

The authors feel that teaching the pelvic examination by this technique produces improved technical and interpersonal skills in internal medicine residents. Because of the positive feedback from residents this program has now become an established component of our internal medicine curriculum.

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REFERENCES

1. Kretzschmar RM: Evolution of the gynecology teaching associate: An education specialist. Am J Obstet Gynecol 132:64-67, 1978
2. Johnson GH, Brown TC, Stenchever MA, et al: Teaching pelvic examination to second-year medical students using programmed patients. Am J Obstet Gynecol 121:714-717, 1975
3. Livingstone RA, Ostrow DN: Professional patient-instructor in the teaching of the pelvic examination. Am J Obstet Gynecol 132:64-67, 1978

Ave Atque Vale

TO THE EDITOR: In the correspondence section of the February 1981 issue of the journal, page 167, there is a letter from Dr. P. Hanson, entitled "Treatment for Heat Stroke Victims," that makes reference to an earlier communication on the topic that was published in the September 1980 issue. In Dr. Hanson's reference the author of the September 1980 communication was erroneously printed as "Elliston E." I write to point out that the author should be correctly identified as Elliston Farrell, MD; his name by tragic coincidence is listed in the In Memoriam section of the same issue in which Dr. Hanson's letter appears.

Dr. Farrell was an internist who practiced in Long Beach, California, and of whom it truly could be said "he was a gentleman and a scholar."

Ave atque vale!

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